

ANNUAL REPORT

1963

VILLAGE OF ALFRED

WATER SYSTEM

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VILLAGE OF ALFRED

PROJECT #58-W-14

HISTORY - 1957-1964

Inception

On February 5, 1957 the Council of the Village of Alfred passed a resolution that requested the Ontario Water Resources Commission to construct a modern water system for the Village.

The firm of J. L. Richards and Associates Ltd., Consulting Engineers, was engaged to prepare plans and specifications for the project.

Approval

On August 26, 1958 the Village signed an agreement with the Ontario Water Resources Commission to finance, construct, and operate the plant.

Construction

Menard Construction, Greenvalley, Ontario began construction on October 25, 1958 and by August 1, 1959 the Division of Plant Operations took over the supervision of the project. Mr. I. LeClair of Alfred was hired on a part time basis to operate the plant.

Total Cost - - - - - \$133,462.00

EQUIPMENT

Low Lift Station

Fairbanks-Morse, low head, vertical turbine.

Model -6980

Serial Number -AZB 135

Capacity -110 gpm at 46 foot TDH

Motor -Tamper, 3 HP, 3 phase, 550 volt

RPM -3470

Jacuzzi Universal Canada Ltd.

Type -25 JH

Capacity -110 gpm at 46 foot TDH

Motor -Wagner, 2 HP, 3 phase, 550 volts

RPM -1450

High Lift Station

Pump Set No. 1

Fairbanks-Morse: size 2" 5874, serial #K2B1882

Motor -Tamper, Model #254UDBS, type BGK5102, 10 HP,
550 volts, 9.75 amp, Squirrel cage induction,
Serial #PP.101514

Pump Set No. 2


Fairbanks-Morse: size 2" 5876, K2B1883B, Motor Tamper,
Model 254UDBS, Serial #101513

Pump Set No. 3

Fairbanks-Morse: size 3" 5874, K2B1886, Motor Tamper,
Model 286 YDBS, Design B, type BGK5159B,
23.5 amp, 25 HP, 550 volts, temp. 40°C.

Pump Set No. 4

Fairbanks-Morse: size 3" 5817, K2B1619 Auxiliary Motor,
F. Morris distributor, Continental
Motor Co. Model F162, Spec. 1466,
Engine C230476 K2V01619 3KVA, Frame 813,
Impeller Diameter 13, Syncro starter,
Model KH, 6VDC, Serial #25166.
Solenoid in engine cooler line by
J. D. Gould Co., 4707 Massachusetts Ave.,
Indianapolis 18, Indiana. Size 3/4 type c,
Max. PSI 70, #55332. Pump Controls -
Autocon Pumptrols.



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Underground Reservoir

Size: -50' x 50' x 11' deep (150,000 Imp. Gals.)

Construction - Reinforced concrete walls, roof and floor.

Operation - Water flows into the reservoir by gravity through a tile system fed by underground springs into the north-east of the reservoir. Water is also pumped in from a well situated 600' south of the reservoir.

Pump House

Size: -21' x 25'

Walls -Concrete block with brick facing on front wall.

Roof -Flat. Tar and gravel on steel deck supported by two steel beams.

Heating -Electric.

Operation -The four centrifugal pumps are powered by two 10 HP and one 25 HP electric motors and a 4 cylinder gasoline motor (auxiliary). One of the small pumps is run continuously to maintain water pressure.

Well House

Size: -6' x 6' x 3' high

Walls -Concrete block

Roof -Peak. Metal on 2' wood

Operation -Water is drawn from the 6' diameter well by a small pump and pumped through 600' of 4" pipe to the reservoir.

DESCRIPTION OF PROJECT

General Description

Collection System: Water is obtained from springs in a forty acre fenced tract of land, located at the southerly limits of the village. A series of perforated collection tiles are used to transport the water to a low lift pump well, measuring six feet in diameter by 16 feet in depth.

Two pumps are employed in delivering the water to a two-compartment storage reservoir, situated underneath the high lift pumping station. The pumps are controlled by a float in the storage reservoir.

High Lift Pumping Station: Three automatically operated pumps are used for normal domestic service with an additional pump provided for stand-by purposes. All of these pumps obtained suction from the above-mentioned storage reservoir, which has a liquid capacity of 150,000 gallons.

Emergency Storage: In addition to the storage facilities described above, a second underground concrete reservoir, having an approximate capacity of 35,000 gallons, is also provided. The water from this reservoir is used only during periods of water shortages, at which time, the

water is admitted by gravity to the 150,000 gallon reservoir, and then pumped to the distribution system.

Chlorination: A Wallace and Tiernan hypochlorinator (series A-417) is used to chlorinate the water at the point of discharge from the low lift pump well.

LABORATORY DATA

Chemical

Date	Hardness as CaCO ₃	Alkalinity as CaCO ₃	Iron	Chloride	pH
May 6, 1963	338	116	0.22	48	7.3

All results given in mg/l except pH.

Bacteriological

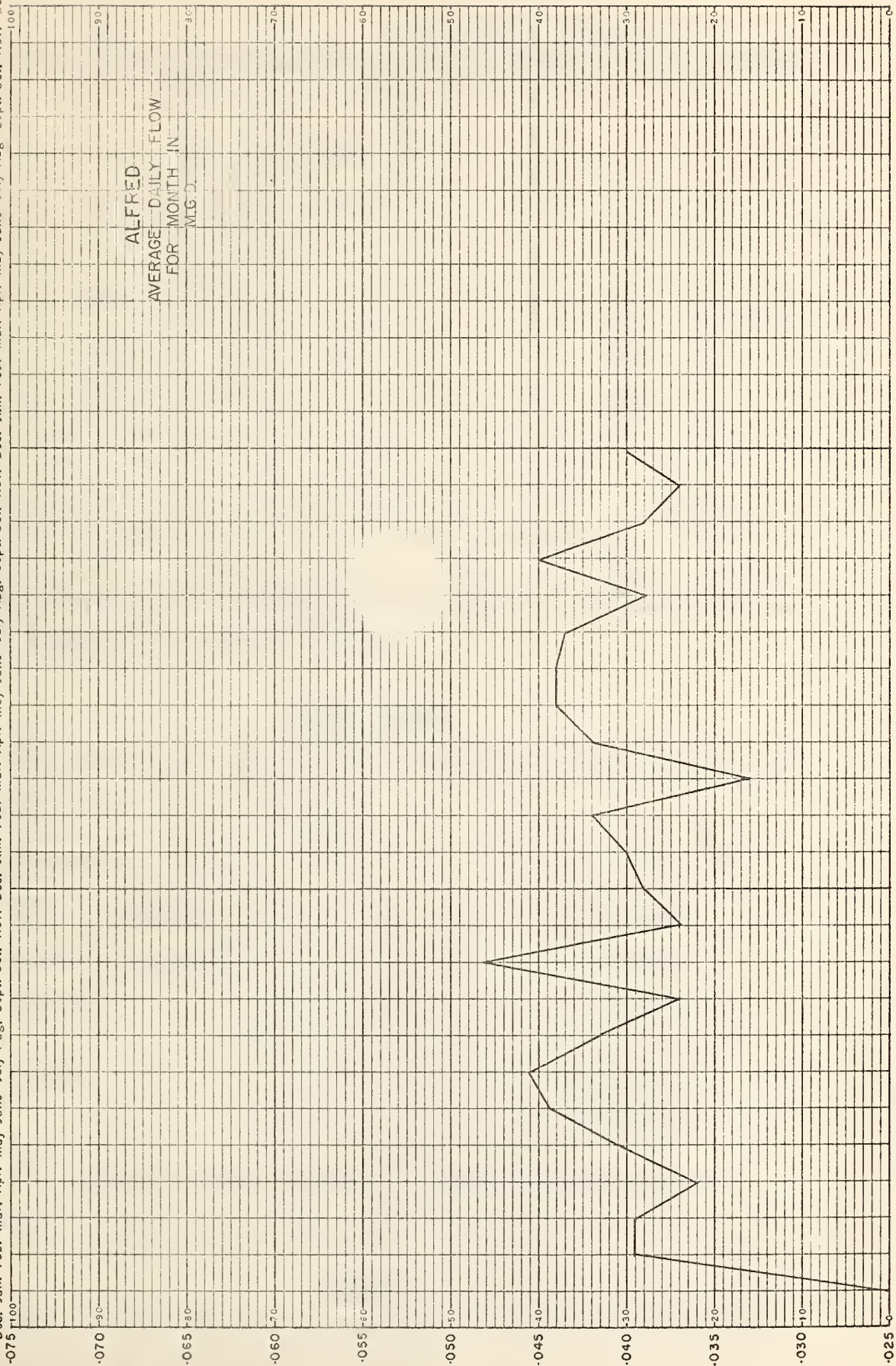
Date	Raw Water	Treated Water
Feb. 5	0	0
Sept. 19	33	-
Oct. 9	24	0
Nov. 13	15	0
Dec. 2	0	0

Reported as coliforms organisms per 100 ml. of water.

OPERATING COSTS

	Total Expenditure	Power	Chemical	General Supplies	Repairs & Maintenance	Sundry
Jan.	116	90		26		
Feb.	126	89			37	
March	146	84	45		8	10

Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.



FLOW IN MGD

Year of 19 62

Year of 19 63

Year of 19

	Total Expenditure	Power	Chemical	General Supplies	Repairs & Maintenance	Sundry
April	72	72				
May	32	70	(38)			
June	156	62	21		73	
July	73	58			14	
Aug.	174	61			30	82
Sept.	260	67	5		188	
Oct.	90	58			32	
Nov.	90	83			7	
Dec.	137	77	53	7		
TOTAL	1474	874	86	34	389	92

All figures to nearest dollar.

TOTAL COSTS

The total cost of the water project to the Village of Alfred in 1963 is as follows:

Operating Costs	\$ 1,473.51
Debt Retirement	2,691.00
Reserve Account	1,045.00
Interest	7,433.92
TOTAL	<u>\$12,643.43</u>

The amount in the Reserve for Contingency fund in December 31, 1964 was \$4,663.29.

SUMMARY

This report has given some data on the operation of the Village of Alfred Water System.

The water consumption has not notably increased from that of 1962. The average daily water consumption in 1963 was 40,500 gallons.

There were very few operating problems in 1963. Some difficulty was experienced with the stand-by engine late in 1963, this being caused by a faulty magneto system.

The pumping station was painted in 1963 and new crushed stone applied on the driveway.

The system was inspected several times in 1963 by head office engineers and technicians. The operator, Mr. I. LeClair, maintained a clean and attractive plant for the Village of Alfred.

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Division of Plant Operations

ONTARIO WATER RESOURCES COMMISSION

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